

U. S. DEPARTMENT OF AGRICULTURE,
BUREAU OF BIOLOGICAL SURVEY

Form Bi-689

FIELD DIARY

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Biological Survey
(Official title.)

Period, *October*¹⁸*1932* - *Nov. 24, 1932*₁₀

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Furaha

For Work in Mexico, 1932+3

Outfit

Passports & permits

Guns & Ammunition, Flash light

Collecting chest

Traps

Tools, Saws, planes, scissors,
dividers, measures, needles,

Supplies, Arsenic, cotton, twine, wire, pins,
Labels, tags, catalogues,

Oatmeal, cornmeal, peanut butter,
beaver castor, wolf bait,

Stationary, journals, note books, paper,
frank, maps, colored pencils,

Cameras, films, flash light, ribbons etc.

Clothing, bedding, boots, rubber soles, bag.

Tent, pack covers, sleeping bags

First aid,

Outfit, continued.

Saddles, spurs, ropes,

Flash lights,

~~First aid~~

Travellers checks -

Books, mammals, birds, plants
Spanish dictionary.

Foods, Klim, baking powder,
pea meal, coffee, tea, soap, candles,
corn meal, bacon,

Oct. 18, 1932

Left Washington 3:50 P M
B + O to Chicago and R. I. to
El Paso, Texas to join
Frederic Wentworth Jr. who flies
down from Boston. for trip
in Mexico, Chihuahua and Sonora
collecting specimens and studying
field natural history in general!

Warm and raining as I
left Washington. Autumn colors
in their prime and the wet
leaves glowing like fresh paint.
Sassafras and staghorn sumachs
like flame azaleas and the tulips,
hickory, and elm like bailed
down sunshine. With all the
shades of red, oaks, gums,
maples, sumach, dogwood and
poke weed scattered through
or bunched or massed the
richness of color scheme of
nature is unsurpassed.

It has rained heavily for about 36 hours and the fields are full of ponds, the streams high and rushing yellow mud until we get to Harpers Ferry where the Potomac of green water joins the yellow Shenandoah.

This country is beautiful and the green fields of wheat wheat and clover with brown cornfields, and yellow plowings all fit in to a magnificent picture, never attempted by any artist. Even the dim fog and haze of the misty rain softens and enriches the setting. Why don't artists give us the real thing instead of their puny imaginations.

Oct. 19 ~~wake up~~

Daylight came somewhere
in southern Ohio and I
had breakfast at 7 in Indiana
after losing one hour.

It is foggy and hazy over a
damp and brilliant picture
of richly colored foliage,
varied from the pale greenish
yellow of the willows and cottonwoods
and aspens to the golden hickory
walnut, tulip, elm and yellowwoods
to the reds and browns of the
oaks, The sumachs, and the
grasses. Even the old dry
weeds and dead marsh grass
fill in masses of rich colors and
go well with green and brown
fields and yellow sand banks.
Hundreds of miles of brilliant
moving pictures in real color.

Arrived at Chicago 9 AM
and left at 10:30

Went across farm country
to the Mississippi River valley
at where the old and
unused canal joins it,
up the valley to Rock Island and
across to Decaturport.

The river valley has its own
autumn color scheme, largely of
the yellow tones, the pale yellows
of willows, beeches, wild grape
and beechwood, the golden cottonwoods,
ash, elms, and honeylocust, and
the flaming stagbush and deep red
smooth sumach. These are the dominant
colors but many touches of red and
brown and green come in in patches
of white and purple asters and a few late
sunflowers and goldenrods white.
On the hill sides the purple and red
and brown of the oaks are seen.

West of the Miss. R. we crossed
big rich prairie country of
Iowa till dark. The crops
seem to have been fairly good and
young cattle and hogs are being
fed as usual. but not so many.
No visible signs of depopulation
except in the towns which
seem rather vacant and many
buildings empty.

Sunset on the day prairie with
smoke and dust and haze in the air
was a gorgeous color display,
ranging from light yellow and puffs
to deeper yellow and orange and
flaming red as the last streaks
smoke into the horizon.

The sky seemed to be carrying
all the pigments or primary
colors of the autumn foliage
reflected back from the earth.

Oct. 70. Sunrise on the
short grass plains near
Pratt, Kansas. A cold,
foggy night but the bright
sunshine soon warmed the
air.

Crossed the Cimarron
and up onto the Staked Plains.
Tumbleweeds and Kaffir Corn the
principal crops. Grass short
and dry, not making cattle
and not good for mowing.

Darkhart and on our edge
of plains - down to lower and
rougher country.

Lagan, lots of low
mesquites, Cotton bolls at
gin. Bush cactus and narrow
leaved sagebrush. Sandy soil.
Lower Eocene of the Cimarron Valley.

Santa Rosa, Same old town,
Picturesque country. Good grass.

Up on the big plains west of Santa Rosa but dark before we reached the mountain ranges.

Arrived at El Paso 11:55 PM and went to Hilton Hotel, new and modern and 17 stories high with a great view of the mountains on both sides of the Rio Grande valley and far up and down the river. Raining when I arrived. There has been much rain and the desert is unusually fresh and green.

The cottonwoods along the Rio Grande valley are still dark green with scarcely a trace of yellow and many fall flowers are in blossom.

El Paso
Oct. 20. Found Freddie Wintrop
and his friend
at the hotel when I came down to
breakfast. They arrived at this
morning on the train. Gave up
flying down because of bad weather.
Raining for several days.

Colder and cheer this morning.
44° above zero, the coldest this
year and unusually cold for the
time of year.

Spent the day trying to get
our papers fixed up for entering
Mexico but did not get far done.

Lunched at Juarez and visited
at The Mint, and visited the
Casino where gambling is
going on at full blast.

Many Americans at both places,
largely women and girls,
drinking and smoking and gambling.
Not an attractive set.

Oct. 22, El Paso, Saturday
Worked fast to get our papers
fixed up and bonds made out and
money deposited at the Mexican
Bank (\$750) as surety that
we would deposit our set of all
our specimens in the Museo
Nacional of Mexico City when
they were classified and named.
Got it all fixed up at
a little after 2 PM when the
offices closed, and are ready
to start for Mexico in the
morning.

Went out and called on Mrs
and Capt. Slater at 514,
Prospect Ave. in this very
interesting home. He is an
artist and sculptor and she a
botanist and all sort of naturalist.
Her desert garden is most
interesting.

Oct. 23, El Paso, Texas,
Sunday morning, warm and
hazy and delightful for a
drive to Carrizalitos, around
by Columbus, New Mexico,
and Palomas. then 90 miles south
to the old Rancho Carrizalitos

The whole trip is in Lower Sonoran
zone mesquite, creosote, catclaw,
Yucca radiosa and *Yucca macrocarpa* and
all the plants that go with them.
Chaco over the tops of all ridges crossed
south of the line. No ridges north of
the boundary. Many little mountain
ranges all around that seem to be
upper Sonoran or at least cold slopes
but no pines, nut pines or oaks
in sight of the road.

Lake Palomas is in a big valley
full of good grass as are all the
valleys along the way. The valley
soil is rich and the grass grows
over the flat country and fine grass and

bunch grass on the ridges.
Even *Eurotia lanata* and *Atriplex*
canescens and another finer leaved
Atriplex are abundant. There is
no sign of overgrazing although
hundreds of cattle are seen in
the valleys, all fat white face stock.
I never saw such a cattle country
as all of these big valleys but especially
the Cañalitos Valley where the
one or two companies each have
own about a million acres of land.

There have been recent rains
grass and most vegetation is green
and fresh and there are many
beautiful wild flowers, mostly yellow
composites but some pink and
purple asters and flame colored
Malvastrum. *Gutierrezia* is
just coming in flower but
apparently a second flowering.
Some of the new grasses are full of seed heads.

Saw Onychomys leucogaster
yesterday near El Paso and
today one Citellus spilosoma just
east of Denning. Lots of burrows
and mounds of Dipodomys spectabilis
and the smaller kangaroo rats,
Pocket gopher hills all along
A few black rabbits and in
Mexico 4 Coyotes.

Paety

Fredric Winthrop Jr.

Erigenio Padilla, "Asico"

Trinidad Padilla, "Ateina"

San Pedro Carralitos,

Geo. W. Houghton, Foreman of Carralitos Ranch

El Paso, Texas, 223 Mills Building

Richard Trimble, Vice Pres. Carralitos Co. New York

Oct. 24 Carralitos, Chihuahua

Awoke in the great adobe sand house of the Carralitos' million acre ranch and mine.

The endless number and extent of adobe walls and buildings and corrales and plazas on all sides of the big main four square house with a patio 60 or 70 feet square in the middle full of flowers. The buildings are old and massive and dark and one old store room has a ton of bat guano on the floor and a strong smell of tobacco but no bats could be seen in the ceiling.

Great heaps of slag have been milled from gold & silver ore from across the valley, and hundreds of huge alamo trees grow all among the buildings and along the Casas Grandes River which runs thro the valley.

Here Pancho Villa killed the owners
and tortured and whipped and hung
and shot the employees to make
them give up gold or secrets
and destroyed property, killed
cattle and stab horses and later
Pershing quartered his 3000 men
on his penitentiary raid into Mexico.

The big valleys are all lower
Sonoran zone, well watered
and heavily grassed, a paradise
for stock and with unlimited
possibilities in agriculture for the
soil is rich and abundance of good
water only 6 or 10 feet below the
surface. Little rough desert
ranges on all sides but rarely
high enough for timber or much
upper Sonoran vegetation.

Oct. 25 Went to Casas Grandes
to get stuff at the store for our trip
but found only the worst possible
stock of goods and not half what
we needed. Got flour and beans
and coffee and salt and sugar and
peloncilla but no bacon or pork
or lard or corn meal or dried
fruit or vegetables except a few
potatoes and onions. Much corn
is raised but but parched and
eaten. Beans and squashes and
chili are seen at the houses
on the little farms.

Set traps and hunted and
found kangaroo rats and pocket
mice and signoras abundant.

Oct. 25 & 26 & 27. Collecting at
Carrizito -

Oct. 28 Packed up & left for
Sonora, camped at Rancho
Ramos, 12 miles.

Meroid at Carrizito 4700 feet

" " Ramos 4900 "

All Lower Sonoran valley
country. See list of plants.

Camped at big springs of good
water under huge old cottonwoods
with grassy flats all around and
a big creek of water running down
through the ranch.

A hot day, rode all day in dirt
shoes.

Oct. 29 ^{Rawas} Stayed all day at camp,
collecting and making up specimens.
Went to big shallow cave at north
end of butte just north of Rawas
but could not scare out any bats
tho fresh droppings from roof.
Has been lived in and used by
stock. Would be worth excavating.
Many new plants, *Momisia pallida*,
Lippia, *Flourensia*, *Eotol*, *Acequia*,
Rhus micropphylla, *Opuntia* and
much mesquite. Good grass
everywhere and lots of cattle.
A few new birds but all lower
Sonoran vegetation.

Oct. 30, Ramos, Sunday,

Got up long before daylight for an early start but one horse and one mule could not be found until about 9 AM, and did not get off till 10:30.

Traveled over ridges and valleys SW about 15 miles to Tepic Creek and camped before sundown with Cottonwoods, a new fine leaved willow, Sycamores, walnuts and Chinese barked junipers. only a few miles from bigger timber in the higher mountains.

Left Lower Sonoran species about half way on this trip, in the west arm of Ramos Valley and not over 10 miles east of base of main Sierra Madre. Upper Sonoran part of valley all grass. Junipers and blue oaks begin at camp.

Came through one big prairie
dog town, about 40 acres,
5 miles before camping.
in upper Sonoran zone.
Also two *Lepus gairdneri*,
on tops of highest grass
plains in upper Sonoran
and collected one. Habits
much as in campanas.
hid in grass by squinting
flat and I caught one for
horseback.

Aneroid at Rawas read
5130 ft at Rawas in morning
and 5800 at camp. 5 PM

Oct. 31, From Zapaditos Creek over
ridges to Zunaja Creek about 5 miles
and struck it about 5 miles above
Colonia Juarez. Then followed
up the creek about 10 miles to
the Ranchos de las Lobas at
6,200 feet and camped in
lower edge of Transition zone
where yellow and Chihuahuan pines
and narrow leaved cottonwoods
begin and close to the top of the first
high ridge of the Sierra Madre,
about west of Juan Garcia-
Mahmets, sycamores, grayed ency-
oaks and chiderback pinyons
reach up to a few miles below
camp and the oaks and pinyons
far above on warm slopes.

Nov. 1, Monday.

Followed west up Tenaja Creek about 10 miles to very end, then over a low saddle at 7500 feet with main ridges 500 to 1000 feet higher, then down west slope along a steep gulch on old and very rocky road about 1000 feet lower, then over a ridge at 7500 feet and down to the town of Tamasopo on the San Pedro River at 6250 feet in a big yellow pine valley with timbered mountains all around. ^{about 20 miles} higher on the west. All Transition zone all day except south slopes where the *Juniperus pachyphloea*, *Pinus emboidea*, blue oaks, manzanitas and *Acacia* go up to at least 8000 feet on south slopes. Every oak does not go so high. The flat valley at 6200 feet and all northerly slopes are yellow and Chihuahuan pines, narrow leaved cottonwoods, cherry, alwayle
see lists of plants & birds.

Nov. 2 Travelled west from
Tamaranda 5 miles to west branch of
San Pedro River and up it west
5 miles farther and camped near the
last water at 7250 feet by my
survey, 7100 by Whithrop's.
Camped at 1 PM in beautiful pine
woods in pure Transition zone
which covers the top and all
cold slopes down to Tamaranda
at 6250 feet. In fact we have
been in Transition zone all day
and all day yesterday except on
steep south slopes where blue oaks
and chinabark junipers go to near
5000 feet. Usually upper Sonoran
stops about 7500 on not very steep
slopes. Transition zone runs
to top of range in extensive and
beautiful forest of shaved yellow
pines, Chihuahuan pine, Locust
and ash.

In two northeast gulches at about 7500 feet small groves of aspens were found but no other Canadian zone species. Douglas spruce and southern white pine are common and the little leaved *Abies grandidentata* up to near the summits.

Winthrop climbed the highest peaks along this part of the range where his aneroid read up to 8650. It generally reads 200 to 400 feet higher than mine.

Set gopher traps and got the blackest form yet, also caught a big *Peromyscus* and one *Neotoma* that seems to be univittata.

Several little white tail deer were seen but none collected and one bunch of *Marus quail* was seen but none secured. No turkeys. Cold nights but clear and beautiful days.

Nov 3. Remained at camp
taxidermy and trapping and making
up skins,
Apaches never found us.

Nov. 4 Crossed over the divide
into Sonora about 5 miles
west of camp at 7800 feet
by my aneroid and 8200 by
Winthrop's, then pitched down
steep dry stony slopes to the
west over old mining ground and
washed out trail to the old
abandoned mine of Das Lagos
at 5500 feet, then 5 miles farther
along the creek and camped at 5000
feet in a canyon of Sycamores,
Walnuts, live oaks, cypress, madrones
and on hot slopes some *Prosopis*
pubescens, Catalpa, *Rhus viridis*,
Agave palmeri? *Opuntia engelmannii* and
basilensis and along the creek 2 species of
Tall *Baccharis*.

We are evidently close to the edge of Lower Sonoran zone but not fully into it except on hot slope up to 5500 feet.

Upper Sonoran runs from 5500 to 7500 on south slopes and 1000 feet lower on north slopes. Transition runs 6000 N.E. to 8500 and from 7500 to tops of peaks at 8500 on south slopes.

Came down 3000 feet today with corresponding rise of temperature.

A dry steep slope but untouched grass until we came near Las Cajas where a few cows were seen and was at a Mexican ranch below and just above camp, still good feed for our horses.

Set traps in canyon and wrote up a few notes.

Saw one big yellow bellied fox skinned above Las Cajas but did not get it.

Nov. 5, Saturday,

At camp 5 mi. below Las Cabezas
aneroid read 4900 feet but we
went over ridges 5000 feet
higher, then back into the same
canyon at 4100 feet and down
in 5 miles to 4150 feet and
camped, still 8 miles
East of Basaraca.

Lower Sonoran species reach
up on south slopes to 5500 feet
but most of the country is
Upper Sonoran with blue oak,
Emory oak, *Juniperus pachyphloea*
and *flaccida*?, over the ridges,
and sycamore, ash, walnut,
cottonwood, willows, hickory,
Cupressus, *Juniperus* along the
creek.

Prosopis pubescens, acacia, mimosa,
Amelanchier, *Rhus virens*,
and other lower Sonoran plants
on flats and hot slopes.

Came very slowly over stony trails
and did not make 15 miles,
tho on the trail most all day.
The blue oaks are loaded with
acorns on the ridges, the first
seen. Band tailed pigeons are
feeding on them. also rock squirrels.
Agave parryi abundant and big
found a little ~~*Agave hartmanni*~~ ^{*Agave hartmanni*} 2 to 6 inches
high in dense heads but no fruit.
Leaves serrated. *Agave hartmanni*.

Thurberia common in canyon
but no boll weevils found.
Country rough and stony and
picturesque. Very dry but
good grass and good water
in creek. One little Mexican
ranch in canyon.
Some cattle all along,
but not many.
Hot day, No frost yet.

Nov. 6, Sunday To Basacaaca.

Get camp on creek 4150.
Up over hills and down into Baviap
Valley to Basacaack, about 9 miles.
River at Basaca 3600.

A big open valley about 10 miles
wide and 50 or 75 long, north and south
all Lower Sonoran zone well up
onto the mountain sides.

Upper Sonoran hills on the west,
but no high country in sight.

The Baviap River is now at
the lowest season two feet deep
and 100 yards wide, running
rapidly with clear mountain water.
The irrigation ditches are all full
and large, several on both
sides. The sandy flats have
lots of cottonwoods and aye amores
and almonds and willows along the
river and ditches and the rest
of valley dry mesquite plains.

Nov. 7, Remained at camp near
Basarack and set more traps
and made up the specimens from
the morning's catch - a *Perognathus*
hillebrandi, *P. eremicus*, 3 *Spermophaga*
eremicus and a *Thomomys*.
Also had a lot of back skins
to make up.

A hot day but we had the
shade of cottonwoods and ash
by the irrigation ditch.
Set traps on flats in P.M.

Nov. 8, Camp at Baco ~~3400~~ 3400

by Winthrop aneroid 4050.

At Huachinas 3600.

At camp 4 mi. W. of Huachinas 3950, Winthrop 4600.

Came about 16 miles and camped late. Just time to set out a few traps before dark.

In morning caught 3 *Sigmodon*
2 *Peromyscus* and two *Thomomys*
Lots of *Dipodomys* and *Peromyscus*
and *Perognathus* on the sandy
flats would not trap our bait
and not one was taken.

Killed a big yellow bellied
fox squirrel before
reaching Huachinas and
saw tracks in road.
It was in a hackberry tree.
No nests or signs this year.
All the

all lower Sonoran zone
all day except in cold
gulches where a few
Blue oaks are found.

Prosopis juliflora is the
dominant tree of the valley
and gets very large in
places, 2 feet in diameter
and 40 feet high.

A large acacia like *hummilis*
is common and acacia *concolor*
and two mimosa are abundant.
The valley juniper is a species
new to me and abundant in
lower Sonoran zone.

It is often full of a small short
leaved *Tillandsia* which also
grows a little on *Quercus* and *Morus*.

Followed up the river much
of the day but from *Huachuca*
turned up west part and camped
at last water.

Nov. 9, Camp 4 mi N of Huatimac 8950

Divide toward Opatun 5100

Camp on west slope 4300

Caught 3 *Thomomys* and a *Perognathus*
and Winthrop shot 3 more big fox
squirrels.

Made up specimens and packed
horses, a sorebacked mule for a
good horse. Started about 11
and came about 15 miles west
up washes and over ridges to
summit and then rapidly down
toward the Batavia River valley.
Saw little wild life. plenty
of Coon tracks and some
Coyote track.

A warm day but frosty
in morning.

Left Lower Sonoran zone
on SW slopes at 4500 feet

And struck upper Sonoran
at 4000 feet on NE slopes.

Lower Sonoran marked by
Mesquite, *Acacia*, *Opuntia*,
Sotol, *Agave palmeri*, *Opuntia*
englemanni & others.

Upper Sonoran Blue oak,
Eucalyptus, Juniper, *Rhus typhina*,
Mangrove, *Ceanothus* -

Camped in deep gulch flowing
westward under large desert oaks
and yuccas. Good water at intervals
along the wash, much stock and little
grass. No signs of any mammals
and few birds. Set no traps.
Picturesque country but very
rough and stony and dry.
Dryly noted.

A hot day.

Nov. 10 Camp in morning ~~3450~~ ⁴⁴⁰⁰.
Came over many ridges, the highest
4600, but kept coming into lower
gulches until we reached Opito
at 2250, (3100 by Winthrop)

Left last traces of upper Sonoran
on cold slopes at 4000 feet
oaks, junipers, wanzanitas
Rhus,

Lower Sonoran went up on
hot slopes to 4500 and on flats
to 4000. Many new plants
came in. A little Giant cactus
in great abundance from 4000
feet down to the bottom edge
of valley at 2300 feet.
The Fouquieria tree, elephant
tree, Iron wood, (Olneya) and a
lot of other Mimosaes and Cereals
and Jujuplus & Paloverde began
at 3500 feet and come to bottom

Nov. 1st. Remained in camp a mile from
Opote and set a lot of traps besides
making up all skins to date.
Had part of the big fox squirrels
cooked and they were delicious, a
good change from tough beef fried
in grease.

The river here is about the
same as at Backarak but not
so clear and pure. Still it is
good drinking water and runs
if straight from the irrigation
ditch that runs through camp.
Cottonwoods, willows, baccharis of
3 or 4 species and tobacco tree
cover the flats.

Feed for the horses is poor
but we give them plenty of corn
so they will gain while resting.
People most friendly and very
helpful in every way possible.
Got 50 oranges from the trees at Laramie
but the regular price is 100 for 50 cents.

Mar. 12 Camp, uninclosed 2050
Caught *Perognathus* and *Sigmodon*
Set more traps, wrote some notes
Dr. Geo. J. Ackers^{man} and his son
Joe called on us and gave
us much good information.

Slightly cloudy but warm
There has been a slight frost
as shown by the bean vines but
nothing else is injured. The
corn and sugarcane are still green
and growing and many flowers are
in blossom. A few hummingbirds
and bats and many insects are seen.

Opuntia in Bavispe Valley 2100 ft

Pecari - a few in hills among oaks.

Whistleduck, a few in mountain both sides

Wheeler, said to be a few.

Allerjaded rabbit, common, 2 taken in pair

Jack rabbit, said to be a few

Cottontail, common in valley

Rodriguez, common.

Nutria "

Peromyscus 2

Onychomys longicaudus 1

Sigmodon, numerous

Perognathus "

Dipodomys none

Thomomys "

Beaver a few

Coyotes common in valley

Lobos, " in Mts 19 taken on road

Lions " " " 18 taken "

Lynx "

Gray fox "

Raccoon abn.

~~Procyon~~ ~~skinn~~

Other, a few.

Nov. 13, Opuntia, Camp 2100

Caught a lot of small stuff but nothing large.

Made up skins and moved camp 4 miles up river and camped at 2150.

Sit traps. Got another *Lepus alleni*, a white winged dove and an Arizona quail. Saw two sheldrakes.

Orange trees are loaded with fruit but not very ripe. We got 100 for a peso.

Sugar cane is green and growing, peanuts are ripe but badly eaten by cottontails.

One young fellow who has been to agricultural college for 6 years has a nice farm well managed with alfalfa and varied crops and fruit.

Birds of Basque Valley at Opato

Mergansers 2
Ducks, said to be a few
Killdeer a few
Great blue herons, common.
Gambels quail, common.
Mearns quail, in foothills
White winged dove common
Mourning dove abundant
Turkey buzzard com.
Black Vultures "
Horned owl, heard
Spotted owl heard
Screech owl "
Red tail hawk, a few
Marsh hawk, common.
Sharp shins, a few seen.
Thickers com.
Gila woodpeckers "
Dryobates sedens a few
Mearns Wks. in foothills
Geopelia "

Nov. 14 Got a lot of *Perognathus*
and a *Peromyscus* & *Neotoma* and
the men caught 2 coons and a
hooded skunk with the dogs.
So with some of yesterday's catch
to make up I had a long busy
day but nearly finished.
Did not set out any more
traps so we can move on
tomorrow if we want to.

There are said to be both
beaver and otter in the river
near here but we have no large
traps for them and they are not
important any way.

Would like to get the 3 other species
of skunks, tho we have the skin of
a *Spilogale* and can well guess
at *Conepatus* and *Mephitis*.

There was a heavy frost in the
morning that killed the peanut vines.
A hot day but cold again in evening.

Hummers	2 seen
Woodpecker	com.
Sayornis sayi	a few
" nigricans	"
Corvus sinuatus	abundant
Brewer's blackbirds	"
Madro Larks	com.
Shrike	a few
Archibuteo wableri	"
Kinglets	"
Junco hyemalis	"
Brewer's wren	"
Cactus wren	com.
Rock wren	"
Thrasher	a few
Mocking birds	com.
Phainopepla	1 ♂
Verdin	many nests
Poliophtila	com.
Pipilo maculosa	"
Amphispiza bilineata	com.
" nevadensis	"
Zonotrichia	"

Nov. 15 Camp near Opato 2100

Up river about 4 miles, then over ridges NW about 10 miles and camped half way to Navazari at 3000 feet. Came over ridges 3000, 3200, & 3400 feet but all Lower Sonoran with mesquites, Ocotillo of 2 species, little giant cactus and other lower sonoran plants to summits. A few velvet leaved oaks on highest NE slopes and on ridge west of us. No Transition timber on any ranges in sight. Bavispe River has broad valley to north and south but cuts across so there is no road and only trails and a few ranches to north. A rough, picturesque desert valley. Much stock and little grass.

Nov. 14 At camp moved road in morning 3100
Followed up wash to little farms and old mines
to 4400, then over divide at 5600 feet
and peaks up to 6000 on both sides.
Then down to Pilares at 5000 feet
and 3 miles beyond to camp in wash
at 4000, near Nogonia.

Came about 24 miles.

Water in many places along way
but most of it strong of alum and other
salts and unfit to drink. Good grass
in many places.

Lower Sonoran up to 4500 feet and
a little to 4600 on S slopes while upper
Sonoran comes down to 4000 on N slopes.
In NE Canyon yellow pines and Chinlewood
pines come down to 4500 feet
and cover steep NE slopes to top of range
at 6000 but in a very narrow, broken
strip. A new aspen with white bark and
elliptical leaves abundant before reaching
divide. Country very rough and picturesque.
Full of minerals, Pilares big old camp.

Nov. 17. Came about 4 miles to Naacari
got supplies and went 5 or 6 miles west on
road to Magdalena.

Camp in morning 4000,

Naacari 1082.50 meters on station.
which equals 3518 feet.

Oversight of Naacari 3800.

" at camp to west 4300 feet.

Came west over very rough trail
and down into good grass valley and
camped by tenaja in rocky arroyo.
at dark.

Country all lower Sonoran zone
except a trace of upper on north
slopes on ridge. Mesquite, *Ocotea*
constricta & others, *Opuntia* cf *Borealis*
abundant.

Nov. 18, camp 4500
valley sloping south 3900
up valley to north about 5 miles
and camped at 4600.

Came about 10 miles.

All pure Lower Sonoran all day
with much big mesquite, Acacia,
Zizophora, Cordia, Opuntia
and Sarcocolla. Walnuts and
Celtis and a few cottonwoods
in arroyos.

No open water but big wells
where cattle are watered.

A warm day.

Made up specimens -
Good automobiles road up
valley.

One big coon track along
dry road about 5 miles.

One flock of Gambel's Quail -
Much stock, good grass except
near water.

Nov. 19 Camp in morning 3600
Rancho north on good road
about 10 miles, over ridge at 4200
thru down west slope into edge
of Sonora River Valley about
5 miles and camped in big
gulch by good water at 3400.

All Lower Sonoran zone except
north slopes above 4000 feet
where oaks and cedars are abn.
Mesquites, cedar, Acacia,
and ocotillo abundant.

Grass fairly good, some
stock and little water.

A few cattle ranches where
water is pumped for stock.
No farms. Very dry.

Low mountains both sides
of valley with some upper
Sonoran timber.

Apr. 20. Camp in gulch 3600
Down wash and stream to west
about 10 miles, then south on
good Auto road a mile to
Chinipas, on mesa above the
Sorda River, River 3000,
Town 3100. Camped in field
near town.

All day in Lower Sonoran
Zone, Mesquite, Acacia,
Mimosa, *Celtis reticulata*, Walnut,
Ash, *Alnus*, cottonwoods,
Condalia, *Ficus*, *Lycium*,
Opuntia fulgida, *O. engelmannii*, *Yucca*,
Acotillo, *Baccharis*, 4 sp.,
Sage 2,

Corn and beans & pepper raised,
Oranges at Arizpe, 15 mi. S.
Zobomus 2 in Canyon, Cardinals,
Perisoreia, *Zenaidura*, *Sturnella*,
Cactus wren, *woodpeckers*, *Thrashers*,
Verdin, *Poliophila*,

Nov. 21 Camp at Chinapa

Witherup went to mine shaft some 4 miles NE of Chinapa where bats were said to be. Got 80 *Otophrynus* from back end of shaft about 100 feet in where they were hanging to roof and walls but very active. Were shot and killed with bush at entrance and many flew away. There were apparently several hundred. Some were brought back alive and photographed.

An old Nestora and two half grown young were also killed in the cave and a gray, banded rattlesnake. I got three *Thamnophis* and a *Sceloporus* near camp, made up specimens and packed ready to catch stage to Cananea in morning.

Cold and frosty in morning, hot day. A small river of good clean water. Valley bottoms narrow and no extensive agriculture. No oranges or sugarcane till south at Acispe.

Nov. 22. Cold at half inch of ice in bank.
Soon warmed up. Camp by Tovar River 3200
Left for Canimela about 8 AM by truck,
Thank good road from Nazari in
about 20 miles and over ridge at 4000
Then down grade to Bokehipe at 3500
feet on the Sonora River where there is
much water flows as at Chinipas.

Then over ridges up to 4000 and 4600
feet with all upper Sonoran zone
on both slopes. Canama 5300, Pot 5600

An almost continuous mountain range
on east but in 3 sections, the southern
called Bangas Mts. the middle Sierra
Matanzas, the northern Sierra Ospey.
They appear to run from 6000 to 7000 feet
high with narrow dry rocky crests and steep
slopes. They are covered with oaks and
junipers on the ^{SW} west slope to the top
but taller pines show along the higher
crests, indicating transition zone on the
cold slopes. The Sonora River comes
out of them.

Badger, a few
 Rabbits
 Skunks
 3 guinea. cows.
 a few
 New Mexico weasel,
 Tadpoles,
 after in water, per year

Nov. 23 At Cananea packing specimens.
 Empty sheet and made up notes.
 A big grassy upper Sonoran plain
 around Cananea Mts. Many *Dipodomys*
opisthotectus mounds, a little *Stimulax*
 mesquite on south slopes. lots of *Crotalus*

Nov. 24, Started for Magdalena, Arizona 5400
 Down into west fork of Sonora River to 4300.
 Big mesquite valley, full of good grass
 and good cattle. Wonderful winter range.
 Over low divide about 4400 to head of Magdalena
 River and down through Kentucky Canyon to 3600
 feet, then through Manupus Canyon to 3300
 feet, then in open valley country to Immovis
 on the Nogales road at 2850 feet and to
 Magdalena at 2600 feet at 4 P.M.

Fairly good road all the way.
 Giant cactus began in Manupus Canyon at
 3300 feet, also the little giant cactus, Centillo,
 Palavida and many others of the lower division
 of Lower Sonoran. A trace of Mesquite & S. from
 head of Sonora to head of Magdalena River.

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Bureau of Biological Survey.

Caeralitos, Chihuahua, Mex., Oct 27-28.

Antelope	a few, maybe 200
Deer, mule, in hills,	
" quail, west in Mts.	
Sheep	none
Rabbits - 3	
Prairie dogs,	40 acres NW of Rancho
ittellus spilosa	a few seen.
Peromyscus l. tamulus	1
Sigmodon burlandicus	abu.
Dipodomys spectabilis	"
" merriami	"
Perodipus ardi	"
Perognathus flavus	2, com.
Thomomys talpaeus	abu. 1
Microtus musculus	"
Rattus	none
Neotoma	a few
Lynx	com
Vulpes d. mexicanus	"
Urocyon	" in hills
Coyote	"
Melomys	in Mts. "



